

ABSTRACT

The present invention facilitates automation of system on a chip (SoC) design, manufacture and verification in a convenient and efficient manner.

5 In one embodiment, a SoC netlist builder and verification computer system of the present invention includes a user interface module, a parameter application module, an expert system module and a chip level netlist generation module. The user interface module provides user friendly and convenient interfaces that facilitate easy entry and modification of user
10 selections and parameters. The parameter application module interprets information supplied by the user module and the expert system module and creates directions (e.g., command lines) passed to other modules for execution. The expert system module analyzes information and automatically provides SoC building and verification data including
15 automated addition of default architectural features, automated insertion of default parameters, and automated input of information to the verification module. The chip level netlist generation module automatically generates a chip level netlist, including the instantiation of internal IC devices and connections between the circuit blocks for internal signals. The verification
20 module automatically generates a test bench and a logical verification environment including simulation models (e.g., a chip model and a system level model).